

**AMENDMENTS TO THE CLAIMS**

**Listing of the claims:**

Following is a listing of all claims in the present application, which listing supersedes all previously presented claims:

1. (Original) A solid state image pickup apparatus comprising:  
a solid state image pickup device having a number of color pixels disposed in a plurality of rows and columns in a pixel shift layout and generating and outputting pixel signals, said number of color pixels including at least three kinds of color pixels, color pixels of one of said at least three kind being distributed in a square lattice pattern aligned in row and column directions; and  
a first signal processing unit for generating output pixel signals by using signals based on said pixel signals, said first signal processing unit generating a part of output pixel signals directly from signals based on pixel signals of the color pixels of said one kind and generating another part of output pixel signals through interpolation process using signals based on pixel signals of color pixels of another of said at least three kinds.
  
2. (Original) A solid state image pickup apparatus according to claim 1, wherein said at least three kinds of color pixels are red color pixels, green color pixels and blue color pixels.

3. (Original) A solid state image pickup apparatus according to claim 1, wherein said at least three kinds of color pixels include complementary color pixels.

4. (Original) A solid state image pickup apparatus according to claim 2, wherein color pixels of said one kind are green color pixels.

5. (Original) A solid state image pickup apparatus according to claim 3, wherein color pixels of said one kind are green color pixels.

6. (Original) A solid state image pickup apparatus according to claim 1, wherein said at least three kinds of color pixels are color pixels of three kinds, said first signal processing unit generates the other part of output pixel signals through interpolation process using signals based on pixel signals of color pixels of the other kind of said three kind.

7. (Original) A solid state image pickup apparatus according to claim 6, wherein said first signal processing unit performs interpolation processes by using signals based on pixel signals of two color pixel rows sandwiching one color pixel row and generates output pixel signals for a reproduction pixel row in a reproduction image corresponding to the sandwiched one color pixel row.

8. (Original) A solid state image pickup apparatus according to claim 6, wherein two color pixels of said another kind and two color pixels of said the other kind

are distributed for each of color pixels of said one kind thereabout respectively.

9. (Original) A solid state image pickup apparatus according to claim 8, wherein each said two color pixels of a same kind are disposed with an associated color pixel of said one kind intervening therebetween.

10. (Original) A solid state image pickup apparatus according to claim 1, further comprising a second signal processing unit for generating output pixel signals by performing interpolation processes using signals based on pixel signals of said number of color pixels.

11. (Original) A solid state image pickup apparatus according to claim 10, wherein said second signal processing unit generates output pixel signals corresponding to a reproduction image having the number of reproduction pixels larger than the total number of said color pixels.

12. (Original) A solid state image pickup apparatus according to claim 1, wherein said solid state image pickup device further comprises a vertical charge transfer element provided for each color pixel column, each said vertical charge transfer element being electrically connected to each color pixel of a corresponding color pixel column.

13. (Original) A solid state image pickup apparatus according to claim 12, wherein said solid state image pickup device further comprises a horizontal charge

transfer element electrically connected to each said vertical charge transfer element and an output amplifier electrically connected to the horizontal charge transfer element.

14. (New) A solid state image pickup apparatus according to claim 1, wherein each output pixel signal is comprised of a pixel signal taken directly from said one kind of color pixel and pixel signals interpolated from other kinds of color pixels of said at least three kinds located in rows above and below rows of said one kind of color pixels.

15. (New) A solid state image pickup apparatus according to claim 1, wherein said output pixel signals are generated at positions of said one kind of color pixels.

16. (New) A solid state image pickup apparatus according to claim 1, wherein the number of output pixel signals is half the number of color pixels.

17. (New) A solid state image pickup apparatus comprising:  
a solid state image pickup device having a number of color pixels disposed in a plurality of rows and columns in a pixel shift layout and generating and outputting pixel signals, said number of color pixels including at least three kinds of color pixels, color pixels of one kind of said at least three kinds being distributed in a square lattice pattern aligned in row and column directions; and

a signal processing unit for generating output pixel signals by using signals of the color pixels, wherein output picture signals are generated at each color pixel position and at each interstitial position.

18. (New) A solid state image pickup apparatus according to claim 17 wherein the number of output pixel signals is twice the number of color pixels.

19. (New) A solid state image pickup apparatus according to claim 17, wherein the output picture signals generated at the interstitial positions are signals interpolated from two color pixels of said one kind and three color pixels of another of said at least three kinds.

20. (New) A solid state image pickup apparatus according to claim 19 wherein the two color pixels of said one kind are located at positions adjacent to said interstitial position.

21. (New) A solid state image pickup apparatus according to claim 19 wherein one of said three color pixels is located at a position adjacent to said interstitial position.